

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
PATENT APPLICATION

5 Entitled : A METHOD AND APPARATUS FOR DETECTING AND  
LOCATING NOISE SOURCES NOT CORRELATED

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ABSTRACT OF THE DISCLOSURE

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According to the invention, the method of detecting  
and locating sources of noise each emitting respective  
signals  $S_j$  with  $j = 1$  to  $M$ , detection being performed  
20 using sensors each delivering a respective time-varying  
electrical signal  $s_i$  with  $i$  varying from 1 to  $N$ , consists  
in taking the time-varying electrical signals delivered  
by the sensors, each signal  $s_i(t)$  delivered by a sensor  
being the sum of the signals  $S_j$  emitted by the noise  
25 sources, in amplifying and filtering the time-varying  
electrical signals as taken, in digitizing the electrical  
signals, in calculating the functional

$$f(\mathbf{n}_1, \dots, \mathbf{n}_j, \dots, \mathbf{n}_N) = \sum_{k \neq l} R_{kl}$$

30 with coefficients  $R_{kl}$  being a function of the vectors  $\mathbf{n}_j$   
giving the directions of the noise sources, and in  
minimizing the functional  $f$  in such a manner as to  
determine the directions  $\mathbf{n}_j$  of the noise sources.